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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/560,273	07/13/2006	Elwood G Norris	00025-21902.PROV.PCT.US	3473

20551 7590 10/31/2007
THORPE NORTH & WESTERN, LLP.
8180 SOUTH 700 EAST, SUITE 350
SANDY, UT 84070

EXAMINER

MONIKANG, GEORGE C

ART UNIT	PAPER NUMBER
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2615

MAIL DATE	DELIVERY MODE
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10/31/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/560,273

Applicant(s)

NORRIS ET AL.

Examiner

George C. Monikang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 18 and 20-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17, 19 and 24-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/30/2006, 5/25/2007</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's amendment, filed 8/21/2007, with respect to the rejection(s) of claim(s) 1 & 27-28 under 10/560273 have been fully considered. Therefore, the applicant's arguments are moot in view of the new grounds of rejection in view of Sasaki et al, WO 99/35881 and Tanaka et al, US Patent 4,823,908 respectively.

Examiner maintains his rejection with respect to claim 24, where the applicant argues that the examiner fails to disclose creating a null zone in the localized area. The beam in Schrage is only targeted to a vehicle or person at a particular range (abstract), thus there can be people or vehicles within that localized area but not within the beam range and these people/vehicle will be unable to hear the sound.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 24-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Schrage, US Patent Pub. 2002/0101360 A1. (Reference US Patent Pub. 2002/0101360 A1 has been cited in IDS filed 6/30/2006 by applicant.)

Re Claim 24, Schrage discloses a method for protecting persons in a localized area from undesired sound, comprising the steps of: a. orienting a parametric speaker

to selectively produce sound along an axis so as to create an audio zone (abstract) and a null zone (para 0025); and b. manipulating the null zone to cover a localized area (para 0025), and to protect persons in the localized area from sound from the parametric speaker (para 0025).

Re Claim 25, Schrage discloses a method in accordance with claim 24, further comprising the step of placing a person in the localized area (Schrage, para 0025).

Re Claim 26, Schrage discloses a method in accordance with claim 24, wherein the localized area is selected from the group consisting of a point of inquiry, a point of decision, a point of selection, a point of transaction, and a point of purchase (Schrage, fig. 1: Red Light).

Claim 27 is rejected under 35 U.S.C. 102(b) as being anticipated by Tanaka et al, US Patent 4,823,908. (The reference is cited in IDS filed 6/30/2006 by applicant.)

Re Claim 27, Tanaka et al discloses a method for maintaining a substantially constant sound level along an audio path, comprising the step of emitting a parametric beam from a parametric speaker toward a focal point (abstract; col. 14, lines 5-20), wherein a rate of narrowing of the beam is correlated with a rate of dissipation of sound with distance from an origin such that sound is concentrated within the beam at approximately the sound dissipation rate to provide the substantially constant sound level along the audio path (col. 14, lines 5-20).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-7, 8-13, 15-17, 19 & 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schrage, US Patent Pub. 2002/0101360 A1, in view of Sasaki et al, WO 99/35881. (The Schrage reference is cited in IDS filed 6/30/2006 and Sasaki et al is cited in IDS filed 5/25/2007)

Re Claim 1, Schrage discloses a system for providing audio information to persons in an approach path (abstract), comprising: a. an interaction point (abstract); b. an approach path, leading to the interaction point (abstract); and c. a parametric sound system (abstract), including a parametric speaker disposed adjacent to the interaction point (fig. 4: 126, para 0080), the parametric sound system being configured for limited delivery of sound in a spatially limited audio zone along the approach path and within a

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decibel level above ambient noise levels in the area of the interaction point (abstract), and sufficiently high to be heard primarily by a person progressing along the approach path (abstract); but fails to disclose further comprising a plurality of audio information systems in close proximity to the system (Sasaki et al, fig. 23: 141a, 144a, 141b & 144b), each audio information system being configured to broadcast audio information within a unique approach path (Sasaki et al, fig. 23; page 21/29, lines 8-16), such that the sound broadcast by each system is substantially limited to the unique approach path associated therewith (Sasaki et al, fig. 23; page 21/29, lines 8-16), and is substantially inaudible to persons in adjacent approach paths (Sasaki et al, fig. 23; page 21/29, lines 8-16). However, Sasaki et al does.

Taking the combined teachings of Schrage and Sasaki et al as a whole, one skilled in the art would have found it obvious to modify the system for providing audio information to persons in an approach path (abstract), comprising: a. an interaction point (abstract); b. an approach path, leading to the interaction point (abstract); and c. a parametric sound system (abstract), including a parametric speaker disposed adjacent to the interaction point (fig. 4: 126, para 0080), the parametric sound system being configured for limited delivery of sound in a spatially limited audio zone along the approach path and within a decibel level above ambient noise levels in the area of the interaction point (abstract), and sufficiently high to be heard primarily by a person progressing along the approach path (abstract) of Schrage with further comprising a plurality of audio information systems in close proximity to the system (Sasaki et al, fig. 23: 141a, 144a, 141b & 144b), each audio information system being configured to

broadcast audio information within a unique approach path (Sasaki et al, fig. 23; page 21/29, lines 8-16), such that the sound broadcast by each system is substantially limited to the unique approach path associated therewith (Sasaki et al, fig. 23; page 21/29, lines 8-16), and is substantially inaudible to persons in adjacent approach paths (Sasaki et al, fig. 23; page 21/29, lines 8-16) so that sound and video signals can be transmitted to users without any reciprocal interaction effects and without the use of headphones.

Re Claim 2, the combined teachings of Schrage and Sasaki et al disclose a system in accordance with claim 1, wherein the interaction point is selected from the group consisting of a point of decision (Schrage, fig. 1: Red Light).

Re Claim 3, the combined teachings of Schrage and Sasaki et al disclose a system in accordance with claim 1, but fail to disclose wherein the decibel level of the audible sound is above about 75 dB.

However, such limitation is the inventor's preference thus it would have been obvious for Schrage and Sasaki et al to modify system for providing audio information to persons for the motivation of providing a decibel level above ambient noise levels.

Re Claim 4, the combined teachings of Schrage and Sasaki et al disclose a system in accordance with claim 1, further comprising a detection device, configured to detect the presence of a person entering the approach path (Schrage, abstract: range sensing device).

Re Claim 5, the combined teachings of Schrage and Sasaki et al disclose a system in accordance with claim 1, further comprising a controller (Schrage, para 0032),

for controlling the parametric sound system, and an input device, configured to allow input from a person to the control system (Schrage, para 0110: microphone).

Re Claim 6, the combined teachings of Schrage and Sasaki et al disclose a system in accordance with claim 1, further comprising a controller, for controlling the parametric sound system (Schrage, para 0032), configured to receive an audio signal and combine the audio signal with an ultra-sonic carrier wave (Schrage, para 0030), and to cause the parametric speaker to broadcast the combined audio signal and carrier wave (Schrage, abstract).

Re Claim 7, the combined teachings of Schrage and Sasaki et al disclose a system in accordance with claim 1, further comprising further comprising a visual display (Schrage, fig. 7; para 0102), coupled to the parametric sound system, viewable by a person within the approach path (Schrage, fig. 7; para 0102), the system being configured to broadcast audio information corresponding to the output of the visual display (Schrage, fig. 7; para 0102).

Re Claim 8, the combined teachings of Schrage and Sasaki et al disclose a system in accordance with claim 7, but fail to disclose wherein the interaction point comprises a cashier station, the approach path comprises a customer waiting line adjacent to the cashier station, and the parametric sound system and video display are disposed between the customer waiting line and the cashier station, such that a person at the cashier station is substantially outside the audio zone.

However, such limitations are the inventor's preference thus it would have been obvious for Schrage and Sasaki et al to modify system for providing audio information to

persons for the motivation of providing audio information to persons in a check out stand.

Re Claim 9, the combined teachings of Schrage and Sasaki et al disclose a system in accordance with claim 8, further comprising a null zone, encompassing the cashier station, such that sound from the parametric sound system is substantially inaudible to the person at the cashier station (Schrage, para 0025).

Re Claim 10, the combined teachings of Schrage and Sasaki et al disclose a system in accordance with claim 1, further comprising a null zone, encompassing a region outside the audio zone, wherein sound from the parametric sound system is substantially inaudible (Schrage, para 0025).

Re Claim 11, the combined teachings of Schrage and Sasaki et al disclose a system in accordance with claim 1, wherein the parametric sound system comprises a plurality of parametric speakers (Schrage, fig. 9), configured to broadcast sound to a substantially linear audio zone from a position substantially off a linear axis of the audio zone (Schrage, fig. 13).

Re Claim 12, the combined teachings of Schrage and Sasaki et al disclose a system in accordance with claim 1, wherein the parametric sound system is configured to broadcast sound to cover an audio zone of asymmetric configuration (Schrage, fig. 13).

Re Claim 13, the combined teachings of Schrage and Sasaki et al disclose a system in accordance with claim 12, wherein the parametric sound system comprises a

plurality of parametric speakers, configured to cover the asymmetric audio zone (Schrage, fig. 13).

Re Claim 15, the combined teachings of Schrage and Sasaki et al disclose a system in accordance with claim 12, wherein the parametric sound system comprises a parametric speaker having beam steering components, such that a single speaker can cover the asymmetric audio zone (Schrage, fig. 18; para 0107).

Re Claim 16, the combined teachings of Schrage and Sasaki et al disclose a system in accordance with claim 1, wherein the parametric sound system is configured to focus ultra-sonic energy substantially along a line in the audio zone (Schrage, para 0030), so that a relative amount of parametric activity at any location along the line dissipates at approximately a rate of dissipation of sound as distance from the speaker increases (Schrage, para 0025).

Re Claim 17, the combined teachings of Schrage and Sasaki et al disclose a system in accordance with claim 1, further comprising interconnection to a network (Schrage, claim 37), such that the system broadcasts audio information that is common to a plurality of additional audio information systems that are interconnected to the network in a plurality of locations (Schrage, claim 30).

Re Claim 19, the combined teachings of Schrage and Sasaki et al disclose a system in accordance with claim 18, wherein each audio information system includes a controller (Schrage, para 0032), for controlling the parametric sound system, configured to receive an audio signal and combine the audio signal with an ultra-sonic carrier wave

(Schrage, para 0030), and to broadcast the combined audio signal and carrier wave via the parametric speaker (Schrage, abstract).

Claim 29 has been analyzed and rejected according to claims 1, 7 & 8.

Claim 30 has been analyzed and rejected according to claims 1, 7-9.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Schrage, US Patent Pub. 2002/0101360 A1 and Sasaki et al, WO 99/35881 as applied to claim 12 above, in view of Bauer, US Patent 5,832,438.

Re Claim 14, the combined teachings of Schrage and Sasaki et al disclose a system in accordance with claim 12, wherein speakers are configured to broadcast sound to cover the asymmetric audio zone (Schrage, fig. 13) but fails to disclose wherein the parametric sound system comprises a parametric speaker having a curved emitter surface. However, Bauer does (col. 8, lines 33-40).

Taking the combined teachings of Schrage, Sasaki et al and Bauer as a whole, one skilled in the art would have found it obvious to modify the system in accordance with claim 12, wherein speakers are configured to broadcast sound to cover the asymmetric audio zone (Schrage, fig. 13) of Schrage and Sasaki et al with wherein the parametric sound system comprises a parametric speaker having a curved emitter surface as taught in Bauer (col. 8, lines 33-40) to provide a system that will attract attention.

Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tanaka et al, US Patent 4,823,908, in view of Schrage, US Patent Pub. 2002/0101360 A1. (The Schrage and Tanaka et al references are cited in IDS filed 6/30/2006)

Re Claim 28, Tanaka et al discloses a method in accordance with claim 27, but fails to disclose further comprising the step of correlating an amount of convergence of ultra-sonic energy along the audio path with a rate of dissipation of ultrasonic energy along the audio path (Schrage, para 0097), so as to define a plurality of sound focal points along the audio path (Schrage, fig.10). However, Schrage does.

Taking the combined teachings of Tanaka et al and Schrage as a whole, one skilled in the art would have found it obvious to modify the method according to Tanaka et al with further comprising the step of correlating an amount of convergence of ultra-sonic energy along the audio path with a rate of dissipation of ultrasonic energy along the audio path (Schrage, para 0097), so as to define a plurality of sound focal points along the audio path (Schrage, fig.10) as taught in Schrage to provide sound to multiple people in the audio path.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to George C. Monikang whose telephone number is 571-270-1190. The examiner can normally be reached on M-F. alt Fri. Off 7:30am-5:00pm (est).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chin Vivian can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

George Monikang

10/17/2007


VIVIAN CHIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2000